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ASPECTS OF TREATMENT*

Anterior horseshoe fistulae

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Summary

A series of anal fistulae is presented in which a high proportion were anterior horseshoe fistulae. The incidence of this type of fistula in this series is higher than that previously reported. It can be recognised by a study of the position of the track by palpation, and the distance from the anal verge of the external opening. A meticulous dissection at operation is required. In order to get good results it is important that this clinical entity be recognised and managed with the same care and attention that is required for a posterior horseshoe fistula.

Introduction

Horseshoe fistulae are a well recognised and particularly difficult variety of anal fistulae to treat (*1*). Goodsall's rule (*2*) points to the importance of recognising that an opening of the fistula posterior to a line drawn coronally through the middle of the anus indicates the presence of what may be a horseshoe fistula and not a direct fistula. This report is a reminder that this rule is not necessarily valid, and describes a higher incidence of anterior fistulae of a horseshoe variety than would be expected from an examination of the literature. Even though, as will be pointed out again, the series carries a bias towards complicated fistulae because of the special interest of the author, it seems that the problem of the anterior fistula is underestimated by the average surgeon. Figures will be presented to demonstrate that this is a reasonable hypothesis based on the number of recurrent anterior horseshoe fistulae that present compared to the number of recurrent posterior horseshoe fistulae.

Material and methods

This is a review of a personal series of 200 fistulae treated over the last 10 years.

The study concerns only those aspects of fistulae which are relevant to and emphasise the importance of anterior horseshoe fistulae. The study is retrospective, but the clinical data are complete in all the cases quoted. The follow-up period ranged from 6 months to 9 years. The patients have been operated on under general anaesthesia. Local infiltration with lignocaine 1% and saline 1 in 200 000 was used in non acute cases to provide a bloodless field. In patients presenting with acute anal sepsis the internal opening of the fistula has been found under anaesthesia by pressing on the abscess cavity before the abscess was drained with a self retaining Parks anal retractor in place. The anal canal is watched carefully to see whether or not pus comes out through the anal canal. If pus does come out then a bent silver fistula probe is inserted into the hole from which the pus is coming in the anal canal and then passed back into the abscess cavity. The abscess cavity is then incised on to the probe and the track between the cavity and the anal canal is opened along the line of the probe. In this way we have found that it is safe to treat patients with fistulae in the acute stage, and a 50% incidencce of fistulae presenting with acute sepsis was found (*3,4*). In some patients treated electively Methylene blue was used to delineate the fistula track. Some of the patients (52) were treated by the Kshara Sutra Thread described by Deshpande and others (*5*). One of the patients with a direct fistula had an anal gland carcinoma; there were two patients with pulmonary tuberculosis, but the fistulae were nontuberculous. No other special aetiological factors were identified.

Results

A fistula which runs in a straight line between the internal and external openings is called a direct fistula and these are anterior or posterior according to the relationship of the external opening to a line drawn coronally through the anus. There were 89 direct fistulae, 43 anterior and 46 posterior.

There were 35 anterior and 76 posterior horseshoe fistulae. The youngest patient was $1\frac{1}{2}$ years and the oldest 75. The average age of 39 years does not differ from that in other series. There is no age difference in the anterior horseshoe, posterior horseshoe and other fistula patients. The sex ratio was 7 Males to 1 Female for the whole series and for the groups within the series. Of the 200 patients 40% presented in the acute stage. However of those with posterior horseshoe fistulae the ratio dropped to 33% and of those with anterior horseshoe fistulae only one out of every 15 presented with acute sepsis. It must be pointed out that some of the comparisons between the different groups of fistulae that follow may not be valid because of the personal interest of the author, leading to a larger number than expected of more difficult cases. Goodsall's rule was apparently valid in 85% of the patients with anterior horseshoe fistulae but the external opening or openings of the fistula were more than 2.5 cm away from the anal verge in 90%, and 31% had two or more external openings. The track was palpable in 70% of non-acute cases. In the anterior direct fistulae the external opening was less than 2 cm from the anal verge in 18 patients (42%); none had multiple openings.

The anterior horseshoe fistula track left the anal canal at the line of the anal valves, passed anteriorly through the internal sphincter and bore a variable relationship to the less well developed external sphincter complex at this level. Many of the tracks pierced what external sphincters there were and then curved laterally to the left or to the right or to both sides and upon reaching the ischiorectal fossa the track passed anteriorly towards the scrotum or posteriorly towards the sacrum curving round the anal canal at pubo rectalis level. In approximately 70% of the anterior horseshoe fistulae presenting without acute sepsis the track was palpable on careful examination.

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RECURRENT FISTULAE

Of all the recurrent fistulae managed, approximately half were of the anterior horseshoe type. Of 35 anterior horseshoe fistulae 19 were recurrent and 24 posterior horseshoe fistulae were recurrent out of a total of 76 operations. To date there has only been one known recurrence out of all the patients treated and this was because the second arm of a horseshoe on the opposite side of an anterior horseshoe fistula had been missed at the first operation and the patient presented later with a sinus in the perineum.

Discussion

The palpable track and an awareness of the condition are important factors in correct diagnosis. The bloodless field at operation led to accurate dissection and a low recurrence rate.

It had appeared to the author that the incidence of anterior horseshoe fistula was higher in Sri Lanka and in India (Rangabashyam, personal communication) than reported. The results indicate that a lack of awareness of this condition has led to a surprisingly large number of anterior horseshoe fistulae presenting as recurrect fistulae as compared to posterior horseshoe fistulae. It therefore seemed important to draw special attention to this clinical entity. In the series presented here anterior horseshoe fistulae constitute almost one sixth of all the fistulae treated. The condition may be diagnosed on clinical examination by noting the distance of the external opening from the anal verge which was over 2.5 cm in most patients and also by attempting carefully to palpate the track, which was palpable in most patients. The operation has to be done by an experienced surgeon and with a bloodless field. If this condition is not managed as carefully as posterior horseshoe fistulae there will be a high rate of recurrence as indicated in the figures presented above. Interestingly the Kshara Sutra method was not associated with any recurrences and this is possibly because here also a careful examination of the track is a pre-requisite to the introduction of the medicated thread. A careful understanding of the anatomy of the track in each individual case leads to successful treatment whether by surgery or by any other technique. Conversely failure of recognition of the site of the internal part of the track leads to higher recurrence rates.

It is difficult to explain why so few of the anterior horseshoe fistulae presented with acute anal sepsis as compared to the posterior horseshoe fistulae and certainly to direct fistulae. The higher incidence of acute sepsis with fistulae on the whole indicates again a personal interest and this incidence tailed off during the latter part of the series as more of these patients were being handled by other surgeons in the hospital. For this reason the figures presented here do not indicate the prevalence of fistulae presenting with acute sepsis. This problem has been separately studied and the figures presented elsewhere (*3,4*). It has to be re-emphasised that the higher number of anterior horseshoe fistulae presenting as recurrent cases indicates that there is a reduced awareness of this condition amongst surgeons in general.

In conclusion, the author would re-emphasise and recommend that the awareness of the possibility of there being an anterior horseshoe fistula, even in a patient who apparently conforms to Goodsall's rule, should be present especially if the external opening of the fistula is more than the 2.5 cm from the anal verge, there are multiple openings, and there is a palpable track curving round towards the midline anteriorly. Careful surgery with a bloodless field or a careful delineation of the tracks using a dye or the careful introduction of the Kshara Sutra Thread will lead to a cure in the majority of patients so avoiding recurrent hospitalisation.

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